

Northern Rockies Lynx Amendment

Draft Environmental Impact Statement - Summary

Responsible Agency: USDA Forest Service

Cooperating Agency: USDI Bureau of Land Management

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Comments must be received by April 15, 2004

Abstract: The Forest Service and BLM are proposing to amend plans on 18 National Forest and four BLM administrative units to incorporate direction to manage lynx habitat. The DEIS was developed to meet the Purpose and Need of the amendment and to respond to primary issues. The Purpose and Need is to incorporate management direction that conserves and promotes the recovery of the Canada lynx, by reducing or eliminating adverse effects from land management activities on NFS and BLM lands, while preserving the overall multiple-use direction in existing plans. Lynx was listed as a threatened species in 2000 due the lack of guidance for conservation of lynx and snowshoe hare habitat in existing plans.

Public comments collected during scoping were used to identify primary issues, management concerns, alternatives and the scope of the DEIS. Five alternatives, including no action, were fully developed and considered. All action alternatives would incorporate varying degrees of management direction for vegetation, fire, grazing, recreation, minerals, roads and highways. An additional 21 alternatives were also considered but not fully developed. Alternative E is the preferred alternative.

Reviewer Comments: Reviewers should provide the Forest Service and BLM with their comments during the review period so the agencies can analyze and respond to all the comments at the same time, use information received to prepare the final EIS, and avoid undue delay in making the decision. Reviewers are asked to structure comments clearly to help the agencies understand their positions and recommendations (*Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553 (1978)). Environmental objections that could have been raised at the draft stage may be waived if they are not raised until the final statement is completed (*City of Angoon v. Hodel* (9th Circuit, 1986) and *Wisconsin Heritages, Inc. v. Harris*, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980)). The most helpful comments are specific and address the adequacy of the statement and the merits of the alternatives (40 CFR 1503.3).

Summary

Purpose and need

The Purpose and Need for the proposed amendment is to incorporate management direction that conserves and promotes recovery of the Canada lynx, by reducing or eliminating adverse effects from land management activities on national forest system and BLM lands, while preserving the overall multiple-use direction in existing plans.

Background

Canada lynx occupy habitat in Colorado, Idaho, Maine, Michigan, Minnesota, Montana, New Hampshire, New York, Oregon, Utah, Vermont, Washington, Wisconsin and Wyoming. In the western United States, lynx habitat is found primarily on federal lands.

Lynx inhabit moist coniferous forests that experience cold, snowy winters and provide a prey base of snowshoe hare. Lynx habitat is primarily found on moist sites that support subalpine fir, Engelmann spruce and lodgepole pine forests. In extreme northern Idaho and northwestern Montana, cedar-hemlock forests also are considered lynx habitat.

Lynx habitat is generally found at mid to upper elevations. The bottom elevation ranges from 3,500 feet in the northern to 7,000 feet in the southern portions of the Northern Rockies lynx amendment area.

On July 8, 1998, the FWS (U.S. Fish and Wildlife Service) proposed to list the Canada lynx as a threatened species under ESA (the Endangered Species Act). The FS (Forest Service) and BLM responded to the declining status of lynx in 1998 by establishing a team of international experts in lynx ecology to collect and summarize scientific data. This resulted in the publication *Ecology and Conservation of Lynx in the United States*.

Based on this information, an interagency team of government biologists developed the LCAS, *Lynx Conservation Assessment and Strategy*. The LCAS recommended conservation measures for federal lands in the contiguous United States. The conservation measures focus on managing vegetation within the historic range of variability, maintaining dense understory conditions for prey, minimizing snow compaction, and identifying and maintaining connectivity within and between habitat areas.

In December 1999, the FS and BLM prepared a BA, a *Biological Assessment* (Hickenbottom et al. 1999) of 57 FS land and resource management plans and 56 BLM land use plans. The assessment found the existing plans were likely to adversely affect lynx because they did not contain direction to conserve lynx.

In February 2000, five Regional Foresters and four FWS Regional Directors signed a *Lynx Conservation Agreement* to promote the conservation of lynx and its habitat. In August 2000, the BLM Assistant Director for Renewable Resources and Planning and two FWS Regional Directors signed a similar agreement.

Both conservation agreements require the agencies to review and consider the recommendations in the LCAS before making any decisions about actions in lynx habitat. The agreements say changes in long-term management direction will be made by amending or revising existing plans.

In April of 2000, the FWS listed the lynx as a threatened species. In its Listing Decision, the FWS said,

"We conclude that the single factor threatening the contiguous United States Distinct population segment of lynx is the lack of guidance for conservation of lynx and snowshoe hare habitat in National Forest Land and Resource Plans and BLM Land Use Plans."

Formal consultation on existing plans required by ESA was completed on October 25, 2000, when the FWS issued its BO, *Biological Opinion*. In the BO, the FWS said existing plans as applied together

with the conservation agreements, were not likely to jeopardize the continued existence of lynx.

In March 2001, the FS and BLM developed schedules to amend or revise their land use and resource management plans. In September 2001, the FS and BLM initiated the Northern Rockies Lynx Amendment, a proposal to amend existing plans for 22 units in the northern Rockies.

In July 2003, the FWS issued a Notice of Remanded Determination of Status for the contiguous United States population of lynx. In it, the FWS reaffirmed its decision to list the lynx as threatened, rather than endangered.

Proposed action

In order to provide conservation and recovery of the Canada lynx the FS and the BLM propose to amend land and resource management plans for 18 national forests (NF) in Idaho, Montana, Utah, Washington and Wyoming, and land use plans for four BLM administrative units in Idaho and Utah. Collectively these will be referred to as "*existing plans*." The FS is the lead agency responsible for preparing this amendment; Idaho and Utah BLM are cooperating agencies.

The original Proposed Action was based on conservation measures in the LCAS as a way to achieve lynx conservation. Measures from the LCAS were reorganized and rearranged to make it easier to include them in the existing plans. Every effort was made to preserve the intent of the measures in the LCAS.

Alternative B, the Proposed Action, has changed from how it was described during scoping. It was rewritten to provide clearer management direction by organizing it better and eliminating duplication.

The original Proposed Action is now Alternative B and has changed somewhat from how it was described in the fall of 2001 when the agencies asked for public comments on the scope of the proposal. It was rewritten to provide clearer management direction by organizing it better and eliminating duplication.

Throughout this document, references to the Proposed Action mean Alternative B, the DEIS Proposed Action.

The proposed amendment would add or modify management direction consisting of one or more of the following:

- ♦ *Goals*, which are general descriptions of desired results;
- ♦ *Objectives*, which are descriptions of desired resource conditions;
- ♦ *Standards*, which are management requirements designed to meet the objectives; and
- ♦ *Guidelines*, management actions normally taken to meet the objectives.

The existing plans contain general resource management direction. Plans do not compel management activities to occur. Whether goals and objectives are achieved depends on agency budgets and competing priorities. Standards may prohibit some management activities from occurring; however, standards can be changed through subsequent plan amendment or revision. Guidelines are recommendations and following them is discretionary.

The LCAS identified risks to lynx and lynx habitat. The BA found many of the risk factors were not addressed in existing plans. Reducing or eliminating these risks is part of the Purpose and Need for this amendment.

Risk factors affecting lynx productivity (productivity means the ability to continue to reproduce) include

- ♦ Timber management
- ♦ Wildland fire management
- ♦ Livestock grazing
- ♦ Recreational uses
- ♦ Forest backcountry roads and trails
- ♦ Other human developments

Risk factors affecting mortality include

- ♦ Trapping
- ♦ Shooting
- ♦ Predator control
- ♦ Highways
- ♦ Predation by other species

Risk factors affecting movement

- ♦ Highways and associated development
- ♦ Private land development

The FWS decision to list lynx as threatened was based on a subset of these risks, which threaten the lynx population as a whole. Threats to lynx populations influenced by national forests and BLM land management include timber harvest regimes and fire suppression, as well as the lack of guidance to address these threats in existing plans.

Administrative units included in the amendment

Table 1. Administrative units and plans that would be amended

Forest Service		
Idaho national forest units	FS region	Land and resource management plan
Clearwater	1	Clearwater forest plan
Idaho Panhandle	1	Idaho Panhandle forest plan
Nez Perce	1	Nez Perce forest plan
Salmon-Challis	4	Salmon forest plan
	4	Challis forest plan
Caribou-Targhee	4	Targhee forest plan
Montana national forest units	FS region	
Beaverhead-Deerlodge	1	Beaverhead forest plan
	1	Deerlodge forest plan
Bitterroot	1	Bitterroot forest plan
Custer	1	Custer forest plan
Flathead	1	Flathead forest plan
Gallatin	1	Gallatin forest plan
Helena	1	Helena forest plan
Kootenai	1	Kootenai forest plan
Lewis and Clark	1	Lewis and Clark forest plan
Lolo	1	Lolo forest plan
Utah national forest units	FS region	
Ashley	4	Ashley forest plan
Wyoming national forest units	FS region	
Bighorn	2	Bighorn forest plan
Bridger-Teton	4	Bridger-Teton forest plan
Shoshone	2	Shoshone forest plan
Bureau of Land Management		
Idaho districts	BLM field office	Land use plan
Lower Snake River	Four River	Cascade resource management plan
	Salmon	Lemhi resource management plan
	Challis	Challis resource management plan
Upper Columbia/ Salmon/Clearwater	Coeur d'Alene	Emerald Empire management framework plan
	Cottonwood	Chief Joseph management framework plan
	Idaho Falls	Medicine Lodge MFP
Upper Snake River	Pocatello†	Pocatello resource management plan†
	Shoshone	Sun Valley management framework plan
Utah field office		
Salt Lake City†		Randolph management framework plan†

†These units do not have lynx habitat, so only the linkage direction in this amendment applies

Alternatives

Public involvement

The public has been involved in this amendment from the time when the FS and BLM first began trying to determine the scope of public interest in the project, on September 11, 2001, when a notice was published in the *Federal Register*, Volume 66, Number 176, 47160-47163. Originally, the comment period was scheduled to end on October 26, 2001, but it was extended to December 10, 2001.

An official website was created at www.fs.fed.us/r1/planning/lynx.html, providing information about the amendment, including the information used to develop the Proposed Action.

Open-house meetings were held to provide a better understanding of the lynx proposal and to gain an understanding of public issues and concerns. Open houses were held in:

- ♦ Idaho at Bonners Ferry, Challis, Coeur d'Alene, Coolin, Grangeville, Idaho Falls, Orofino and Salmon;
- ♦ Montana at Billings, Bozeman, Dillon, Great Falls, Hamilton, Helena, Kalispell, Libby and Missoula; and
- ♦ Wyoming at Cody, Jackson Hole, Riverton and Sheridan.

FS and BLM units mailed out more than 6,000 letters about the proposed amendment and upcoming meetings to their mailing lists of people interested in land management issues.

Tribes with aboriginal territories located inside the amendment area were identified and individual letters written to each of them. The letters asked for their participation and identified local federal contacts. The governor's office for each state within the amendment area was also contacted about their briefing needs.

The 1,890 public responses to the scoping notice that were received by December 17, 2001, were evaluated and summarized in a report called *Summary of Public Comments*. Many responses were signed by more than one person. Responses received after December 17, 2001, but before the release of this DEIS, were also considered.

In mid-May 2002, an eight-page update was mailed to the more than 2,000 addresses of the people who responded to the scoping notice.

On August 15, 2002, a Notice of Intent to prepare an Environmental Impact Statement was published in the *Federal Register*, Vol. 67, No. 158, pp. 53334-53335. The agencies are preparing an EIS because of the level of interest expressed during scoping.

Issues

The scoping process was used to identify conflicts associated with the Proposed Action and to identify issues to use as a basis for developing alternatives. Comments that addressed the effects of

the Proposed Action were sorted into *primary issues*, discussed below.

Five primary issues were identified. They reflect conflicts between lynx conservation and alternative uses of natural resources.

1. Over-the-snow trails

Issue: What are the effects of limiting the growth of groomed or designated over-the-snow routes, on opportunities for over-the-snow recreation?

2. Wildland fire risk

Issue: What are the effects of the lynx amendment on the risks of wildland fire to communities?

3. Winter snow shoe hare habitat in multistoried forests

Issue: What is the effect on lynx of allowing projects in winter snowshoe hare habitat in multistoried forests?

4. Precommercial thinning

Issue: What are the effects of limiting precommercial thinning, on restoring tree species that are declining and on stand structures that are declining?

5. FWS Remand decision

Issue: What level of management direction should be applied to activities that the FWS remand notice found were not a threat to lynx populations?

The primary issues were used to develop alternatives to the Proposed Action that meet the Purpose and Need. Several *management concerns* were also identified as a basis for formulating alternatives.

Additional management concerns addressed in alternatives

Internal agency comments, as well as some public comments, expressed other concerns about the Proposed Action, largely involving procedural or administrative considerations rather than environmental consequences. Some people thought the Proposed Action would increase the complexity, cost or rigidity of management without comparable benefits for lynx. These concerns have been addressed by developing different language in alternatives. Such management concerns include:

- ♦ The scale of analysis imposed by Standards VEG S1 and HU S1;
- ♦ Standards that focus on particular methods, such as timber harvest and salvage logging;
- ♦ How denning habitat is considered;
- ♦ How lynx diurnal habitat is considered;
- ♦ How upgrading roads is considered; and
- ♦ How adaptive management is incorporated.

Alternatives considered in detail

The range of alternatives was determined by evaluating the comments and the Purpose and Need; and considering the level of scientific information available to warrant a different approach, the FWS Listing Decision and ESA requirements.

Within these parameters, the alternatives developed display a reasonable range to guide future projects, respond to the issues and meet the Purpose and Need. Five alternatives were developed in detail. Table Summary-1 shows the differences in management direction between the action alternatives, B, C, D and E.

- ♦ Alternative A is the no-action alternative. In this case, no action means no change, no amendment to existing plans to address new information about lynx.
- ♦ Alternative B, the Proposed Action, was developed from conservation measures recommended in the LCAS. Alternative B addresses activities on NF and BLM lands that can affect lynx and their habitat.
- ♦ Alternative C was designed to respond to issues of over-the-snow recreation management and foraging habitat in multistoried forests, while providing a comparable level of protection to lynx as Alternative B, the Proposed Action.
- ♦ Alternative D was designed to address the issues of managing over-the-snow recreation and multistoried forests, similar to Alternative C. Alternative D also allows some precommercial thinning in winter snowshoe hare habitat, but still contributes to lynx conservation.
- ♦ Alternative E addresses the issue of wildland fire risk while contributing to lynx conservation. It also responds to statements made in FWS's Remand Notice that grazing, minerals, forest roads and over-the-snow activities do not affect lynx populations.

Management direction considered, but not in detail

Some public comments gave suggestions for management direction that would have created other alternatives. A number of such alternatives to management direction were considered but dismissed from detailed consideration, for reasons summarized and discussed in the DEIS.

The rationale for not analyzing these alternatives in detail is based primarily on the narrowly defined Purpose and Need for the Proposed Action. Suggested alternatives were compared to the Proposed Action and the other fully developed alternatives, to see whether they represented a distinctly different approach but still met the Purpose and Need.

Based on this analysis, the following alternative direction was not considered in detail:

- 1) Proposed action used in scoping
- 2) Include a standard for type conversions
- 3) Limit the size of clearcuts and other regeneration-harvest units
- 4) Drop Standard VEG S1 that allows no more than 30 percent unsuitable habitat or change the percentage
- 5) Drop the 10 percent denning standard or increase it
- 6) Prohibit harvest in old growth or mature timber
- 7) Drop the criteria in VEG S4 that allow salvage logging

- 8) Add standards and guidelines to direct when and where wildland fire should be allowed to burn
- 9) Prohibit grazing on federal lands, add more standards about grazing or drop them
- 10) Remove all over-the-snow standards, let over-the-snow use increase, or further restrict or prohibit it
- 11) Include winter-logging road restrictions in the over-the-snow standard
- 12) Remove ski areas or don't let them expand
- 13) Ban road construction, provide more road-building restrictions, turn the roads guidelines into standards or drop the road-related guidelines
- 14) Limit road densities
- 15) Prohibit logging in lynx travel corridors
- 16) Establish only objectives for lynx management, not standards
- 17) Apply lynx conservation measures to areas that have not been mapped as lynx habitat or apply them only to occupied lynx habitat
- 18) Develop lease stipulations for oil and gas leasing
- 19) Move lynx into unoccupied habitat
- 20) Restrict hare hunting
- 21) Include all the recommendations in the LCAS.

Nature of effects

The amendment is programmatic in nature, consisting of direction that would be applied to future management activities. It does not prescribe site-specific activities on the ground, or irreversibly commit resources. CEQ regulations define *direct effects* as those occurring at the same time and place as the amendment. There are no direct environmental consequences of the amendment; therefore the analysis in the DEIS discusses only *indirect* and *cumulative* effects of the alternatives. Direct effects would result from site-specific projects, and will be evaluated when those decisions are made.

In analyzing effects, it's assumed the standards would be met because complying with standards is mandatory. The analysis of effects is based primarily on projections of how future activities and areas would change because of the proposed standards. Such projections are inherently uncertain.

It's also assumed that the objectives generally would be achieved and the guidelines generally followed, though that may not always be true.

The baseline for effects disclosed in this chapter is the existing plans. The effects of existing plans have been previously determined and disclosed. The DEIS describes changes in effects resulting from incorporating lynx conservation measures.

Generally, effects are presented as changes from existing plans, represented by Alternative A. Some effects on lynx are presented by comparing them to Alternative B, the Proposed Action, which was designed to conserve lynx. Cumulative effects include the effects of the existing plans as disclosed in accompanying NEPA documents and incorporated by reference.

Significance of effects

NEPA requires an EIS to be prepared for proposals that significantly affect the quality of the human environment. A DEIS was prepared based on the level of public interest for this amendment.

The overall effect of the action alternatives is to reduce the likelihood of effects from future projects. The analysis in the DEIS has not identified any environmental effects likely to be significant. The DEIS discloses indirect effects of not taking future actions.

Decision framework

The DEIS has been prepared to evaluate the effects of the Proposed Action, and to look at alternative ways of achieving the Purpose and Need, while responding to the primary issues and management concerns.

The responsible officials will decide whether or not to amend FS and BLM plans to incorporate direction for lynx conservation and recovery, and if so what that direction would contain.

Due to agency-specific planning regulations, the BLM and FS will publish separate decision documents for their respective amendments.

Responsible officials

Kathleen McAllister, Deputy Regional Forester for the Northern Region, has been directing the preparation of the DEIS. The responsible officials are:

- ♦ Brad Powell, Regional Forester, Northern Region, Region 1, PO Box 7669, Missoula, Montana 59807;
- ♦ Rick Cables, Regional Forester, Rocky Mountain Region, Region 2, PO Box 25127, Lakewood CO, 80225;
- ♦ Jack Troyer, Regional Forester, Intermountain Region, Region 4, Federal Building, 324 25th Street, Ogden, UT 84401;
- ♦ K. Lynn Bennett, State Director for Idaho BLM, 1387 South Vinnell Way, Boise, ID 83709; and
- ♦ Sally Wisely; State Director for Utah BLM, 324 South State Street, Salt Lake City, UT 84145.

Table Summary-1. Crosswalk between Alternative B, the Proposed Action, and the other action alternatives C, D & E

Differences between the alternatives have been *italicized*.

If a conflict exists between this management direction and an existing plan, the more restrictive direction applies.

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
ALL PROGRAMS & ACTIVITIES – applies to lynx habitat¹⁹ in LAUs¹⁷ & linkage areas¹⁸ I8, subject to valid existing rights			
<u>Goal¹²</u> Conserve the Canada lynx.	Same	Same	Same
<u>Objective²⁵ ALL O1</u> Maintain ²² or restore ³³ lynx habitat ¹⁹ connectivity ¹⁴ in and between LAUs ¹⁷ , and in linkage areas ¹⁸ .	Same	Same	Same
<u>Standard³⁶ ALL S1</u> New or expanded permanent developments ²⁸ and vegetation management projects ⁴¹ must maintain ²² habitat connectivity ¹⁴ .	Same	Same	Same
<u>Standard ALL S2</u> None	None	A project proposal that deviates from one or more lynx standards may proceed without amending the plan, subject to ESA requirements, if a written determination is made that the project is not likely to adversely affect lynx. The regional forester or BLM state director must approve any project proposed under this measure before the decision is made.	A project proposal that deviates from one or more lynx standards may proceed without amending the plan, subject to ESA requirements, <i>either</i> : 1. If a written determination is made that the project is not likely to adversely affect lynx; or 2. <i>If it may result in short-term adverse effects on lynx but if long-term benefits to lynx and its habitat would result.</i>
<u>Guideline¹³ ALL G1</u> Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways ¹⁵ or forest highways ¹⁰ across federal land. Methods could include fencing, underpasses or overpasses.	Same	Same	Same

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
SPECIFIC PROGRAMS & ACTIVITIES – applies only to lynx habitat¹⁹ in LAUs¹⁷, subject to valid existing rights LAU boundaries			
<u>Standard³⁶ LAU S1</u> LAU ¹⁷ boundaries will not be adjusted except through agreement with the FWS, based on new information about lynx habitat ¹⁹ .	Same	Same	Same
Vegetative management activities & practices			
<u>Objective²⁵ VEG O1</u> Manage vegetation to be more similar to historic succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.	Same	Same	Same
<u>Objective VEG O2</u> Maintain or improve lynx habitat ¹⁹ , emphasizing high-quality winter snowshoe hare habitat ⁴² near denning habitat ⁴ .	Same	Same	Same
<u>Objective VEG O3</u> Conduct fire use ⁹ activities to restore ³³ ecological processes and maintain or improve lynx habitat.	Same	Same	Same
<u>Objective VEG O4</u> Design regeneration harvest, reforestation and thinning to develop characteristics suitable for winter snowshoe hare habitat.	Same	Same	Same

Alternative B

Standard³⁶ VEG S1

Unless a broad scale assessment² has been completed that substantiates different historic levels of unsuitable habitat²⁰, limit disturbance in each LAU¹⁷ as follows:

If more than 30 percent of the lynx habitat¹⁹ in an LAU is currently in unsuitable condition, no additional habitat may be made unsuitable by vegetation management projects⁴¹.

Alternative C

Standard VEG S1

Unless a broad scale assessment has been completed that substantiates different historic levels of unsuitable habitat, limit disturbance in each LAU *or in a combination of immediately adjacent LAUs* as follows:

If more than 30 percent of the lynx habitat in an LAU *or a combination of immediately adjacent LAUs* is currently in unsuitable condition, no additional habitat may be made unsuitable by vegetation management projects.

This standard does not apply to prescribed fire²⁹.

Use the same analysis boundaries for all vegetation management projects subject to this standard.

Alternative D

Standard VEG S1

Unless a broad scale assessment has been completed that substantiates different historic levels of unsuitable habitat, limit disturbance in *each sub-basin or isolated mountain range*¹⁶ as follows:

If more than 30 percent of the lynx habitat *in a sub-basin or isolated mountain range* is currently in unsuitable condition, no additional habitat may be made unsuitable by vegetation management projects.

Use the same analysis boundaries for all vegetation management projects subject to this standard.

Alternative E

Standard VEG S1

Unless a broad scale assessment has been completed that substantiates different historic levels of unsuitable habitat, limit disturbance in each LAU *or in a combination of immediately adjacent LAUs* as follows:

If more than 30 percent of the lynx habitat in an LAU *or a combination of immediately adjacent LAUs* is currently in unsuitable condition, no additional habitat may be made unsuitable by vegetation management projects.

This standard does not apply to fuel treatment¹¹ projects identified through processes such as that described in A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan.

Use the same analysis boundaries for all vegetation management projects subject to this standard.

Standard VEG S2

Timber management projects³⁹ shall not change more than 15 percent of the lynx habitat on NFS or BLM lands in an LAU to an unsuitable condition in a ten-year period.

None

See Guideline VEG G6

None

None

Standard VEG S3

Maintain²² at least ten percent of the lynx habitat in an LAU as denning habitat⁴ in patches generally larger than five acres.

Same as Alt B

Standard VEG S3

Maintain at least ten percent of the lynx habitat in an LAU as denning habitat in patches generally larger than five acres.

Standard VEG S3

Maintain at least ten percent of the lynx habitat in an LAU as denning habitat in patches generally larger than five acres.

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
Where less than ten percent denning habitat is present in an LAU, defer vegetation management projects in stands that have the highest potential to develop denning habitat.		Where less than ten percent denning habitat is present in an LAU, either: 1. Defer vegetation management projects in stands that have the highest potential to develop denning habitat; or 2. <i>Move towards ten percent denning habitat by leaving enough standing trees and coarse woody debris to be similar to what would be there naturally.</i>	Where less than ten percent denning habitat is present in an LAU, either: 1. Defer vegetation management projects in stands that have the highest potential to develop denning habitat; or 2. Move towards ten percent denning habitat by leaving enough standing trees and coarse woody debris to be similar to what would be there naturally. <i>This standard does not apply to fuel treatment projects identified through processes such as that described in A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan.</i>
<u>Standard VEG S4</u> After a disturbance kills trees in areas five acres or smaller that could contribute to lynx denning habitat, salvage harvest ³⁴ may occur only in: 1. Developed recreation ⁷ sites, administrative sites, or authorized special use structures or improvements; or 2. Designated road or trail corridors where public safety or access has been or may be compromised; or 3. LAUs where denning habitat has been mapped and field-validated, provided at least ten percent is retained and well distributed.	<u>Standard VEG S4</u> After a disturbance kills trees in areas five acres or smaller that could contribute to lynx denning habitat, salvage harvest may occur only in: 1. Developed recreation sites, administrative sites, or authorized special use structures or improvements; or 2. Designated road or trail corridors where public safety or access has been or may be compromised; or 3. LAUs where denning habitat has been mapped and field-validated, provided at least ten percent is retained and well distributed; or 4. <i>Within 200 feet of dwellings or outbuildings.</i>	None See Guideline VEG G7	None See Guideline VEG G7

Alternative B

Standard VEG S5

Precommercial thinning³⁰ projects that reduce winter snowshoe hare habitat⁴² during the stand initiation structural stage³⁷ may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings.

NOTE: Some thinning projects, such as white pine pruning or Christmas tree harvest, may occur if winter snowshoe hare habitat is not reduced.

Alternative C

Standard VEG S5

Vegetation management projects that reduce winter snowshoe hare habitat during the stand initiation structural stage may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings; or
2. *For research studies³² or genetic tree tests evaluating genetically improved reforestation stock.*

NOTE: Some vegetation management projects, such as white pine pruning or Christmas tree harvest, may occur if winter snowshoe hare habitat is not reduced.

Alternative D

Standard VEG S5

Vegetation management projects that reduce winter snowshoe hare habitat during the stand initiation structural stage may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings; or
2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or
3. *For daylight thinning³ of planted rust-resistant white pine where 80 percent of the winter snowshoe hare habitat is retained; or*
4. *To restore³³ whitebark pine; or*
5. *For daylight thinning to release larch or ponderosa pine where 80 percent of the winter snowshoe hare habitat is retained; or*
6. *To develop future old growth²⁷ characteristics in lodgepole; or*
7. *When a broad scale assessment² determines that the amount winter snowshoe hare habitat in the stand initiation stage exceeds what would be expected under the normal range of historic conditions; or*
8. *For conifer removal in aspen or daylight thinning around individual aspen trees.*

NOTE: Appendix G includes examples of 3, 5, 6 and 7.

Alternative E

Standard VEG S5

Precommercial thinning³⁰ projects that reduce winter snowshoe hare habitat during the stand initiation structural stage may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings; or
2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or
3. *For fuel treatment projects identified through processes such as that described in A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment, 10-Year Comprehensive Strategy Implementation Plan.*

Alternative B

Standard VEG S6

Precommercial thinning projects that reduce winter snowshoe hare habitat during the understory-reinitiation⁴⁰ or old-multistory structural stages²⁶ may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings.

Alternative C

Standard VEG S6

*Vegetation management projects*⁴¹ that reduce winter snowshoe hare habitat during the understory-reinitiation or old-multistory structural stages may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings; or
2. For research studies³².

Alternative D

Standard VEG S6

Vegetation management projects that reduce winter snowshoe hare habitat during the understory-reinitiation or old-multistory structural stages may occur only:

1. Within 200 feet of administrative sites, dwellings or outbuildings; or
2. For research studies; or
3. *To maintain planted rust-resistant white pine where 80 percent of the winter snowshoe hare habitat is retained; or*
4. *To restore whitebark pine; or*
5. *To release larch or ponderosa pine where 80 percent of the winter snowshoe hare habitat is retained; or*
6. *To develop future old growth characteristics in lodgepole; or*
7. *When a broad scale assessment² determines that the amount of winter snowshoe hare habitat in multistory structural stages exceeds what would be expected under the normal range of historic conditions.*
8. *When improving or maintaining winter snowshoe hare habitat in the long term.*

NOTE: Appendix G includes examples of 3, 5 and 6.

Alternative E

None

See *Guideline VEG G8*

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
<u>Guideline¹³ VEG G1</u> Vegetation management projects ⁴¹ should be planned to recruit a high density of conifers, hardwoods and shrubs where such habitat is scarce or not available. Winter snowshoe hare habitat ⁴² should be near denning habitat ⁴ . Vegetation management projects should be planned to extend the production of winter snowshoe hare habitat when forage quality and quantity is declining.	<u>Guideline VEG G1</u> Vegetation management projects should be planned to recruit a high density of conifers, hardwoods and shrubs where such habitat is scarce or not available <i>Priority should be given to stem-exclusion, closed-canopy structural stage³⁸.</i> Winter snowshoe hare habitat should be near denning habitat. Vegetation management projects should be planned to extend the production of winter snowshoe hare habitat when forage quality and quantity is declining.	Same as Alt C	Same as Alt C
<u>Guideline VEG G2</u> Where more denning habitat is desired, leave standing trees and coarse woody debris in amounts similar to what would be there naturally. Denning habitat should be near winter snowshoe hare habitat.	Same	None See Standard VEG S3	None See Standard VEG S3
<u>Guideline VEG G3</u> Vegetation management projects designed to retain or restore ³³ denning habitat should be located where there is a low probability of stand-replacing fire.	Same	Same	Same
<u>Guideline VEG G4</u> Fire use ⁹ activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.	Same	Same	Same

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<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
<u>Guideline VEG G5</u> Habitat for alternate prey species, primarily red squirrel ³¹ , should be provided in each LAU.	Same	Same	Same
None See Standard VEG S2	<u>Guideline VEG G6</u> <i>Timber management projects³⁹ should not change more than 15 percent of the lynx habitat in an LAU into an unsuitable condition during a ten-year period.</i>	None	None
None See Standard VEG S4	None See Standard VEG S4	<u>Guideline VEG G7</u> <i>After a disturbance that kills trees in areas five acres or smaller which could contribute to lynx denning habitat, salvage harvest³⁴ should not occur unless at least ten percent denning habitat in an LAU is retained and well distributed.</i>	Same as Alt D
None See Standard VEG S6	None See Standard VEG S6	None See Standard VEG S6	<u>Guideline VEG G8</u> <i>Vegetation management projects⁴¹ should provide habitat conditions through time that maintain²² winter snowshoe hare habitat⁴² during the understory reinitiation⁴⁰ or old-multistory structural stages. Vegetation management projects should be used to improve winter snowshoe hare habitat where dense understories are lacking.</i>

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
Livestock grazing activities & practices			
<u>Objective²⁵ GRAZ O1</u> Manage livestock grazing to be compatible with improving or maintaining ²² lynx habitat ¹⁹ .	Same	Same	Same
<u>Standard³⁶ GRAZ S1</u> In fire- and harvest-created openings, manage livestock grazing to make sure impacts do not prevent shrubs and trees from regenerating.	Same	Same	None See Guideline GRAZ G1
<u>Standard GRAZ S2</u> In aspen stands, manage livestock grazing to contribute to their long-term health and sustainability.	Same	Same	None See Guideline GRAZ G2
<u>Standard GRAZ S3</u> In riparian areas and willow carrs, manage livestock grazing to contribute to maintaining or achieving a preponderance of mid- or late-seral stages ²⁴ , similar to conditions that would have occurred under historic disturbance regimes.	Same	Same	None See Guideline GRAZ G3
<u>Standard GRAZ S4</u> In shrub-steppe habitats ³⁵ , manage livestock grazing in the elevation ranges of forested lynx habitat ¹⁹ in LAUs ¹⁷ , to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.	Same	Same	None See Guideline GRAZ G4

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
None See Standard GRAZ S1	Same	Same	<u>Guideline¹³ GRAZ G1</u> <i>In fire- and harvest-created openings, livestock grazing should be managed so that impacts do not prevent shrubs and trees from regenerating.</i>
None See Standard GRAZ S2	Same	Same	<u>Guideline GRAZ G2</u> <i>In aspen stands, livestock grazing should be managed to contribute to their long-term health and sustainability.</i>
None See Standard GRAZ S3	Same	Same	<u>Guideline GRAZ G3</u> <i>In riparian areas and willow carrs, livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages²⁴, similar to conditions that would have occurred under historic disturbance regimes.</i>
None See Standard GRAZ S4	Same	Same	<u>Guideline GRAZ G4</u> <i>In shrub-steppe habitats³⁵, livestock grazing should be managed in the elevation ranges of forested lynx habitat in LAUs, to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.</i>

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
Human uses management activities & practices			
<u>Objective²⁵ HU O1</u> Maintain ²² the lynx's natural competitive advantage over other predators in deep snow, by discouraging the expansion of snow-compacting activities in lynx habitat ¹⁹ .	Same	Same	Same
<u>Objective HU O2</u> Manage recreational activities to maintain lynx habitat and connectivity.	Same	Same	Same
<u>Objective HU O3</u> Concentrate activities in existing developed areas, rather than developing new areas in lynx habitat.	Same	Same	Same
<u>Objective HU O4</u> Provide for lynx habitat needs and connectivity when developing new or expanding existing developed recreation ⁷ sites or ski areas.	Same	Same	Same
<u>Objective HU O5</u> Manage human activities – such as exploring and developing minerals and oil and gas, placing utility corridors and permitting special uses – to reduce impacts on lynx and lynx habitat.	Same	Same	Same
<u>Objective HU O6</u> Reduce adverse highway ¹⁵ effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity ¹⁴ , and to reduce the potential of lynx mortality.	Same	Same	Same

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
<u>Standard³⁶ HU S1</u> Allow no net increase in designated over-the-snow routes ⁵ or play areas by LAU ¹⁷ , unless designation serves to consolidate use and improve lynx habitat ¹⁹ . This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings or where regulated by HU S3.	<u>Standard HU S1</u> Allow no net increase in designated over-the-snow routes or play areas <i>outside baseline areas of consistent snow compaction¹</i> by LAU or in a combination of immediately adjacent LAUs, unless designation serves to consolidate use and improve lynx habitat. This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings or to access regulated by HU S3. <i>Use the same analysis boundaries for all actions subject to this standard.</i>	Same as Alt C	None See Guideline HU G11
<u>Standard HU S2</u> When developing or expanding ski areas, locate trails, access roads and lift termini to maintain ²² and provide lynx diurnal security habitat ⁸ if it's been identified as a need.	None See Guideline HU G10	None See Guideline HU G10	None See Guideline HU G10
<u>Standard HU S3</u> Winter access for non-recreation special uses and mineral and energy exploration and development, shall be limited to designated routes ⁶ or designated over-the-snow routes ⁵ .	Same	Same	See Guideline HU G12
<u>Guideline¹³ HU G1</u> When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris, so winter snowshoe hare habitat ⁴² is maintained.	Same	Same	Same

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
<u>Guideline HU G2</u> When developing or expanding ski areas, nocturnal foraging should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.	Same	Same	Same
<u>Guideline HU G3</u> Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effectiveness of lynx habitat.	Same	Same	Same
<u>Guideline HU G4</u> For mineral and energy development sites and facilities, remote monitoring should be encouraged to reduce snow compaction.	Same	Same	Same
<u>Guideline HU G5</u> For mineral and energy development sites and facilities that are closed, a reclamation plan that restores ³³ lynx habitat should be developed.	Same	Same	Same
<u>Guideline HU G6</u> Upgrading unpaved roads to maintenance levels ²³ 4 and 5 should be avoided in lynx habitat, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development.	<u>Guideline HU G6</u> <i>Methods to avoid or reduce effects on lynx should be used in lynx habitat when upgrading unpaved roads to maintenance levels 4 or 5, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development.</i>	Same as Alt C	Same as Alt C

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
<u>Guideline HU G7</u> New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity ¹⁴ . New permanent roads and trails should be situated away from forested stringers.	Same	Same	Same
<u>Guideline HU G8</u> Cutting brush along low-speed ²¹ , low-traffic-volume roads should be done to the minimum level necessary to provide for public safety.	Same	Same	Same
<u>Guideline HU G9</u> On new roads built for projects, public motorized use should be restricted. Effective closures should be provided in road designs. When the project is over, these roads should be reclaimed or decommissioned, if not needed for other management objectives.	Same	Same	Same
None See Standard HU S2	<u>Guideline HU G10</u> <i>When developing or expanding ski areas and trails, access roads and lift termini should be located to maintain and provide lynx diurnal security⁸ habitat.</i>	Same as Alt C	Same as Alt C

	<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
None See Standard HU S1	Same	Same	Same	<u>Guideline HU G11</u> <i>Designated over-the-snow routes⁵ or play areas should not expand outside baseline areas of consistent snow compaction¹ by LAU or in a combination of immediately adjacent LAUs, unless designation serves to consolidate use and improve lynx habitat.</i> <i>This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings or where regulated by HU G12.</i> <i>Use the same analysis boundaries for all actions subject to this guideline.</i>
None See Standard HU S3	Same	Same	Same	<u>Guideline HU G12</u> <i>Winter access for non-recreation special uses and mineral and energy exploration and development, should be limited to designated routes⁶ or designated over-the-snow routes⁵</i>

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
LINKAGE AREAS – applies to linkage areas¹⁸, subject to valid existing rights			
<u>Objective²⁵ LINK O1</u> In areas of intermingled land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.	Same	Same	Same
<u>Standard³⁶ LINK S1</u> When highway ¹⁵ or forest highway ¹⁰ construction or reconstruction is proposed in linkage areas ¹⁸ , identify potential highway crossings.	Same	Same	Same
<u>Standard LINK S2</u> Manage livestock grazing in shrub-steppe habitats ³⁵ to contribute to maintaining ²² or achieving a preponderance of mid- or late-seral stages ²⁴ , similar to conditions that would have occurred under historic disturbance regimes.	Same	Same	None See Guideline LINK G2
<u>Guideline¹³ LINK G1</u> NFS and BLM lands should be retained in public ownership.	Same	Same	Same
None See Standard LINK S2	Same	Same	<u>Guideline LINK G2</u> Livestock grazing in shrub-steppe habitats should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages ²⁴ , similar to conditions that would have occurred under historic disturbance regimes.

<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
Monitoring			
Map the location and amount of snow-compacting use that coincided with lynx habitat ¹⁹ in LAUs ¹⁷ during the 1998-2000 seasons for designated over-the-snow ⁵ and groomed routes and areas, and areas of consistent snow compaction ¹ . Such activities include snowmobiling, snowshoeing, cross-country skiing, dog sledding, etc.	Same as Alt B	Same as Alt B	Same as Alt B
None	None	<i>Annually monitor the acres of vegetation management projects⁴¹ that occurred in lynx habitat and in winter snowshoe hare habitat⁴² during the previous fiscal year.</i>	Same as Alt D
None	None	<i>Document and evaluate the conditions under which Standard All S2 is applied.</i>	Same as Alt D

Glossary

¹ *Areas of consistent snow compaction* – An area of consistent snow compaction is an area of land or water that during winter is generally covered with snow and gets enough human use that individual tracks are indistinguishable. In such places, compacted snow is evident most of the time, except immediately after (within 48 hours) snowfall. These can be areas or linear routes, and are generally found in near snowmobile or cross-country ski routes, in adjacent openings, parks and meadows, near ski huts or plowed roads, or in winter parking areas. Areas of consistent snow compaction will be determined based on the area or miles used in 1998, 1999 or 2000.

² *Broad scale assessment* – A broad scale assessment is a synthesis of current scientific knowledge, including a description of uncertainties and assumptions, to provide an understanding of past and present conditions and future trends, and a characterization of the ecological, social and economic components of an area. (LCAS)

³ *Daylight thinning* – Daylight thinning is a form of precommercial thinning that removes the trees and brush inside a given radius around a tree.

⁴ *Denning habitat (lynx)* – Denning habitat is the environment lynx use when giving birth and rearing kittens until they are mobile. The most common component is large amounts of coarse woody debris to provide escape and thermal cover for kittens. Denning habitat must be within daily travel distance of winter snowshoe hare habitat – the typical maximum daily distance for females is

about three to six miles. Denning habitat includes mature and old growth²⁴ forests with plenty of coarse woody debris. It can also include young regenerating forests with piles of coarse woody debris, or areas where down trees are jack-strawed.

⁵ *Designated over-the-snow routes* – Designated over-the-snow routes are routes managed under permit or agreement or by the agency, where use is encouraged, either by on-the-ground marking or by publication in brochures, recreation opportunity guides or maps (other than travel maps) or in electronic media produced or approved by the agency. The routes identified in outfitter and guide permits are designated by definition; groomed routes also are designated by definition. The determination of baseline snow compaction will be based on the miles of designated over-the-snow routes authorized, promoted or encouraged in 1998, 1999 or 2000.

⁶ *Designated route* – A designated route is a road or trail that has been identified as open for specified travel use.

⁷ *Developed recreation* – Developed recreation requires facilities that result in concentrated use. For example, skiing requires lifts, parking lots, buildings and roads; campgrounds require roads, picnic tables and toilet facilities.

⁸ *Diurnal security habitat (lynx)* – Diurnal security habitat amounts to places in lynx habitat that provide secure winter daytime bedding sites for lynx in highly disturbed landscapes like ski areas. Security habitat gives lynx the ability to retreat from human disturbance during the day, so they can emerge at dusk to hunt when most human activity stops. Forest structures that make human access difficult generally discourage human activity in security habitats. Security habitats are most effective if big enough to provide visual and acoustic insulation and to let lynx easily move away from any intrusion. They must be close to winter snowshoe hare habitat. (LCAS)

⁹ *Fire use* – Fire use is the combination of wildland fire use and using prescribed fire to meet resource objectives. (NIFC) Wildland fire use is managing naturally ignited wildland fires to accomplish resource management objectives in areas that have a fire management plan. This term replaces prescribed natural fire. (Wildland and Prescribed Fire Management Policy, August 1998)

¹⁰ *Forest highway* – A forest highway is a forest road under the jurisdiction of, and maintained by, a public authority and open to public travel (USC: Title 23, Section 101(a)), designated by an agreement with the FS, state transportation agency and Federal Highway Administration.

¹¹ *Fuel treatment* – A fuel treatment is a management action that reduces the threat of ignition and fire intensity or rate of spread, or is used to restore fire-adapted ecosystems.

¹³ *Goal* – A goal is a broad description of what an agency is trying to achieve, found in a land management plan. (LCAS)

Guideline – A guideline is a particular management action that should be used to meet an objective found in a land management plan. The rationale for deviations may be documented, but amending the plan is not required. (LCAS modified)

¹⁴ *Habitat connectivity (lynx)* – Habitat connectivity consists of an adequate amount of vegetative cover arranged in a way that allows lynx to move around. Narrow forested mountain ridges or shrub-steppe plateaus may serve as a link between more extensive areas of lynx habitat; wooded riparian areas may provide travel cover across open valley floors. (LCAS)

¹⁵ *Highway* – The word highway includes all roads that are part of the National Highway System. (23 CFR 470.107(b))

¹⁶ *Isolated mountain range* – Isolated mountain ranges are small mountains cut off from other mountains and surrounded by flatlands. On the east side of the Rockies, they are used for analysis instead of sub-basins. Examples are the Little Belts in Montana and the Bighorns in Wyoming.

¹⁷ *LAU (Lynx Analysis Unit)* – An LAU is an area of at least the size used by an individual lynx, from about 25 to 50 mi² (LCAS). An LAU is a unit for which the effects of a project would be analyzed; its boundaries should remain constant.

¹⁸ *Linkage area* – A linkage area provides connectivity between blocks of lynx habitat. Linkage areas occur both within and between geographic areas, where basins, valleys or agricultural lands separate blocks of lynx habitat, or where lynx habitat naturally narrows between blocks. (LCAS updated definition approved by the Steering Committee 10/23/01)

¹⁹ *Lynx habitat* – Lynx habitat occurs in mesic coniferous forest that experience cold, snowy winters and provide a prey base of snowshoe hare. In the northern Rockies, lynx habitat is generally occurs between 3,500 and 8,000 feet of elevation, and primarily consists of lodgepole pine, subalpine fir and Engelmann spruce. It may consist of cedar-hemlock in extreme northern Idaho, northeastern Washington and northwestern Montana, or of Douglas fir on moist sites at higher elevations in central Idaho. It may also consist of cool, moist Douglas fir, grand fir, western larch and aspen when interspersed in subalpine forests. Dry forests do not provide lynx habitat. (LCAS)

²⁰ *Lynx habitat in an unsuitable condition* – Lynx habitat in an unsuitable condition consists of lynx habitat in the stand initiation structural stage where the trees are generally less than ten to 30 years old and have not grown tall enough to protrude above the snow during winter. Stand replacing fire or certain vegetation management projects can create unsuitable conditions. Vegetation management projects that can result in unsuitable habitat include clearcuts and seed tree harvest, and sometimes shelterwood cuts and commercial thinning depending on the resulting stand composition and structure. (LCAS)

²¹ *Low-speed, low-traffic-volume road* – Low speed is less than 20 miles per hour; low volume is a seasonal average daily traffic load of less than 100 vehicles per day.

²² *Maintain* – In the context of this amendment, to maintain means to provide enough lynx habitat to conserve lynx. It does not mean to keep the status quo.

²³ *Maintenance level* – Maintenance levels define the level of service provided by and maintenance required for a road. (FSH 7709.58, Sec 12.3) Maintenance level 4 is assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. Some may be single lane; some may be paved or have dust

abated. Maintenance level 5 is assigned to roads that provide a high degree of user comfort and convenience. Normally, roads are double-lane and paved, but some may be aggregate surfaced with the dust abated.

²⁴ *Mid-seral or later* – Mid-seral is the successional stage in a plant community that's the midpoint as it moves from bare ground to climax. For riparian areas, it means willows or other shrubs have become established. For shrub-steppe areas, it means shrubs associated with climax are present and increasing in density.

²⁵ *Objective* – An objective is a statement in a land management plan describing desired resource conditions and intended to promote achieving programmatic goals. (LCAS)

²⁶ *Old multistory structural stage* – Many age classes and vegetation layers mark the old forest, multistoried stage. It usually contains large old trees. Decaying fallen trees may also be present that leave a discontinuous overstory canopy. On cold or moist sites without frequent fires or other disturbance, multi-layer stands with large trees in the uppermost layer develop. (Oliver and Larson, 1996)

²⁷ *Old growth* – Old growth forests generally contain trees that are large for their species and site, and are sometimes decadent with broken tops. Old growth often contains a variety of tree sizes, large snags and logs, and a developed and often patchy understory.

²⁸ *Permanent development* – A permanent development is any development that results in a loss of lynx habitat for at least 15 years. Ski trails, parking lots, new permanent roads, structures, campgrounds and many special use developments would be considered permanent developments.

²⁹ *Prescribed fire* – A prescribed fire is any fire ignited as a management action to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements met, before ignition. The term replaces management ignited prescribed fire. (NWCG)

³⁰ *Precommercial thinning* – Precommercial thinning is mechanically removing trees to reduce stocking and concentrate growth on the remaining trees, and not resulting in immediate financial return. (Dictionary of Forestry)

³¹ *Red squirrel habitat* – Red squirrel habitat consists of coniferous forests of seed and cone-producing age that usually contain snags and downed woody debris, generally associated with mature or older forests.

³² *Research* – Research consists of studies conducted to increase scientific knowledge or technology. For the purposes of Standards VEG S5 and VEG S6, research applies to studies financed from the forest research budget (FSM 4040) and administrative studies financed from the NF budget.

³³ *Restore, restoration* – To restore is to return or re-establish ecosystems or habitats to their original structure and species composition. (Dictionary of Forestry)

³⁴ *Salvage harvest* – Salvage harvest is a commercial timber sale of dead, damaged or dying trees. It recovers economic value that would otherwise be lost. Collecting firewood for personal use is not considered salvage harvest.

³⁵ *Shrub steppe habitat* – Shrub steppe habitat consists of dry sites with shrubs and grasslands intermingled.

³⁶ *Standard* – A standard is a required action in a land management plan specifying how to achieve an objective or under what circumstances to refrain from taking action. A plan must be amended to deviate from a standard.

³⁷² *Stand initiation structural stage* – The stand initiation stage generally develops after a stand-replacing disturbance by fire or regeneration timber harvest. A new single-story layer of shrubs, tree seedlings and saplings establish and develop, reoccupying the site. Trees that need full sun are likely to dominate these even-aged stands. (Oliver and Larson, 1996)

³⁸ *Stem exclusion structural stage* – In the stem exclusion stage, trees initially grow fast and quickly occupy all of the growing space, creating a closed canopy. Because the trees are tall, little light reaches the forest floor so understory plants (including smaller trees) are shaded and grow more slowly. Species that need full sunlight usually die; shrubs and herbs may become dormant. New trees are precluded by a lack of sunlight or moisture. (Oliver and Larson, 1996)

³⁹ *Timber management* – Timber management consists of growing, tending, commercially harvesting and regenerating crops of trees.

⁴⁰ *Understory re-initiation structural stage* – In the understory re-initiation stage, a new age class of trees gets established after overstory trees begin to die, are removed or no longer fully occupy their growing space after tall trees abrade each other in the wind. Understory seedlings then re-grow and the trees begin to stratify into vertical layers. A low to moderately dense uneven-aged overstory develops, with some small shade-tolerant trees in the understory. (Oliver and Larson, 1996)

⁴¹ *Vegetation management projects* – Vegetation management projects change the composition and structure of vegetation to meet specific objectives, using such means as prescribed fire and timber harvest. For the purposes of this amendment, the term does not include removing vegetation for permanent developments like mineral operations, ski runs, roads and the like, and does not apply to fire suppression or to wildland fire use.

⁴² *Winter snowshoe hare habitat* – Winter snowshoe hare habitat consists of places where young trees or shrubs grow dense – thousands of woody stems per acre – and tall enough to protrude above the snow during winter, so hares can browse on the bark and small twigs (Ruediger et al. 2000). Winter snowshoe hare habitat develops primarily in the stand initiation, understory reinitiation and old forest multistoried structural stages.